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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/698,425 | 11/03/2003 | Jun-Kyu Cha | P56982 | 1512 |

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| EXAMINER | |
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2879 | |

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/698,425 | CHA ET AL. | |
| | Examiner | Art Unit | |
| | Anne M. Hines | 2879 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-11,13-17 and 19-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17 and 19-23* is/are allowed.

6)☒ Claim(s) *1-11 and 13-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

The amendment filed on February 21, 2006, has been entered and acknowledged by the Examiner.

Claims 1-11, 13-17, and 19-23 are pending in the instant application.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,2, 5, 6, 7, 8, 11, 13, 14, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US Pat. No. 6,559,592) and further in view of Saito et al. (US Pat. No. 6,469,440) and Kobayashi et al. (US 2004/0027514).

Regarding claim 1, Lee teaches a filter for a plasma display panel comprising: a substrate (Fig. 3, 45; Column 4, line 22), a conductive material pattern arranged on the substrate (Fig. 3, 46; Column 4, lines 23-24), and a black matrix pattern (Fig. 3, 47; Column 4, line 26); patterned on the substrate on portions not covered by the conductive material (Fig. 3). Lee fails to teach wherein the black matrix pattern is a photoresist material comprising a pigment and a dye that cuts off light of a specific wavelength range and further comprising a material that prevents external light from being reflected; and a plated mesh arranged on the conductive material pattern. Saito

teaches a filter comprising a conductive mesh member (Fig. 1, 3; Column 5, lines 53-54) between a plasma display panel and the viewing surface (Fig. 2, 20 & 3; Column 13, lines 22-24) in order to block electromagnetic waves (Column 1, lines 28-34). Kobayashi teaches a black matrix material of a negative photoresist (Page 5, Paragraph [0065]) containing a dye (Page 1, Paragraph [0007]), a pigment (Page 1, Paragraph [0007]), and a material that prevents external light from being reflected (Page 5, Paragraph [0065]) and also teaches a dye that cuts off light of a specific wavelength range (Page 9, Paragraph [0110]) in order to form a black matrix with high precision and high sensitivity (Page 11, Paragraph [0135]). Therefore it would have been obvious to one of ordinary skill in the art to modify the filter of Lee to have the black matrix material disclosed by Kobayashi and the conductive mesh disclosed by Saito arranged on the conductive material pattern between the plasma display panel and its viewing surface in order to make a filter that blocks electromagnetic waves and has a black matrix with high sensitivity and precision.

Regarding claim 2, Kobayashi further discloses wherein the negative photoresist material comprises acrylic resin (Page 5, Paragraph [0065]). Motivation to combine is the same as for claim 1.

Regarding claim 5, Lee further discloses wherein the thickness of the conductive material pattern is 3-5 μm (Column 5, lines 29-33). Saito further discloses wherein the conductive mesh member has a wire diameter of 1 μm (Column 13, lines 22-29). It would be obvious to one of ordinary skill in the art that the combined thickness of the

conductive material pattern of Lee and the conductive mesh member of Saito would be in the range of 1-50 μm. Motivation to combine is the same as for claim 1.

Regarding claim 6, Kobayashi further discloses wherein the material that prevents external light from being reflected is a metal oxide (Page 5, Paragraph [0065]). Motivation to combine is the same as for claim 1.

Regarding claims 7, 8, 11, 13, 14, 15 and 16 here the Applicant is claiming the product of a filter including a method (i.e. a process) of making the filter of claim 1, consequently, claims 7, 8, 11, 13, 14, 15 and 16 are considered "product-by-process" claims. In spite of the fact that a product-by-process claim may recite only process limitations, it is the product and not the recited process that is covered by the claim. Further, patentability of a claim to a product does not rest merely on the difference in the method by which the product is made. Rather, it is the product itself that must be new and not obvious (see MPEP 2113). The structural limitations of claims 7, 8, 11, 13, 14, 15 and 16 also recited in claims 1 and 2. See claim 1 and 2 rejections above.

Claims 3, 4, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US Pat. No. 6,559,592), Saito et al. (US Pat. No. 6,469,440), and Kobayashi et al. (US 2004/0027514), and further in view of Nakano et al. (2004/0232813).

Regarding claims 3 and 9, Lee, Saito, and Kobayashi teach the filter of claims 1 and 7. Kobayashi further teaches the black matrix material containing a dye and a pigment (Page 1, Paragraph [0007]), the dye comprising an organic compound of the

phthalocyanin group that blocks near infrared rays (Page 9, Paragraph [0110]). The Examiner considers that the pthalocyanin dyes disclosed by Kobayashi as also only blocking near infrared rays, since this is a material property and Kobayashi discloses the material required by claims. Kobayashi fails to teach wherein the pigment is an organic compound of the imonium group. Nakano teaches an imonium group pigment as an additive to a resin for a filter in order to block near infrared rays (Page 5, Paragraph [0077]). Therefore, it would have been obvious to one of ordinary skill in the art to modify the black matrix material of Kobayashi to use the imonium group pigment of Nakano in order to block near infrared rays.

Regarding claims 4 and 10, Lee, Saito, and Kobayashi teach the filter of claims 1 and 7. Kobayashi further teaches the black matrix material containing a dye and a pigment (Page 1, Paragraph [0007]), the dye comprising an organic compound of the phthalocyanin group (Page 9, Paragraph [0110]). Kobayashi fails to teach wherein the pigment is an organic compound of the imonium group. Kobayashi also fails to teach wherein the dye blocks light near 590 nm, however, one of ordinary skill in the art would reasonably contemplate that the phthalocyanin group dyes, taught by Kobayashi, include a dye that blocks light near 590 nm. Nakano teaches an imonium group pigment as an additive to a resin for a filter in order to block near infrared rays (Page 5, Paragraph [0077]). Therefore, it would have been obvious to one of ordinary skill in the art to modify the black matrix material of Kobayashi to use the imonium group pigment of Nakano in order to block near infrared rays.

### *Allowable Subject Matter*

Claims 17 and 19-23 are allowed.

Regarding independent claim 17, the references of the Prior Art of record fail to teach or suggest the combination of the limitations as set forth in claim 17, and specifically comprising the limitation wherein the conductive mesh pattern and non-conductive material have equal depths between 1 and 50 microns.

Regarding claims 19-22, claims 19-22 are allowable for the reasons given in claim 17 because of their dependency status from claim 17.

Regarding independent claim 23, the references of the Prior Art of record fail to teach or suggest the combination of the limitations as set forth in claim 23, and specifically comprising the limitation wherein the conductive mesh pattern and non-conductive material have equal depths between 1 and 50 microns.

### *Response to Arguments*

Applicant's arguments filed February 21, 2006 have been fully considered but they are not persuasive.

Applicant argues regarding claims 1-2, 5-8, 11, and 13-16 that Lee as modified by Saito would not result in a mesh layer in the place of the address electrodes of Lee. Applicant further argues that the address electrodes of Lee are not suggestive of a mesh.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the conductive pattern of claim 1 is a mesh) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, the Lee reference teaches a conductive metal pattern (Fig. 3, 46; Column 4, lines 23-24) with a negative photoresist complementing the conductive metal pattern (Fig. 3, 47; Column 4, line 26). The Saito reference is combined with the Lee reference to add a mesh between the plasma display panel of Lee and the viewing surface, as taught by Saito in order to block electromagnetic waves, which is arranged on the conductive metal pattern of Lee. The Saito reference has not been used to replace the address electrodes of Lee with a mesh, as suggested by the applicant.

Applicant argues with respect to claim 1 that the Kobayashi reference does not teach a photoresist that comprises a dye that cuts off light of a specific wavelength. Applicant's argue that Kobayashi teaches a light-shielding layer that blocks all light, not just light of a specific wavelength.

The Examiner respectfully disagrees. Kobayashi does teach the claimed requirement of the photoresist comprising a dye that cuts off light in a specific wavelength—in that the phthalocyanin group dye included in the photoresist is a near infrared absorbing dye. The Examiner points out that the Applicant has not claimed the layer as cutting light in a specific wavelength—only that the dye cuts off light in a

specific wavelength. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the photoresist layer cutting off light in a specific wavelength) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues with respect to claim 1 that Kobayashi does not teach a negative photoresist, nor was Applicant's claim to a negative photoresist rejected or addressed in the claim rejections.

The Examiner respectfully disagrees. The Kobayashi reference teaches a photoresist material with an acrylic resin binder. It is known in the art of photoresist materials that acrylate group polymers are negative photoresists. See Lamanna et al. (US 6841333) Column 14, line 6 to Column 15, line 4 for a discussion of polymers suitable for both negative and positive photoresists.

Applicant argues with respect to claim 16 that the phrase "said conductive material pattern adapted to serve as a mask in said exposing step" which was rejected as a method of making the device, should be given weight as limiting the structure of the filter apparatus.

The Examiner respectfully disagrees. In the rejection of claim 16, the Examiner noted that the structural limitations were met by the structure of claims 1 and 2. In this case, the conductive material pattern rejected in claim 1 meets the structural limitations of claim 16. The phrase "adapted to" suggests or makes optional the following limitation

that the conductive material pattern be a mask; See MPEP 2106. Further, the conductive material pattern of Lee can inherently be adapted to serve as a mask.

***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne M. Hines whose telephone number is (571) 272-2285. The examiner can normally be reached on Monday through Friday from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anne M Hines
Patent Examiner
Art Unit 2879

AMH 5/11/06

MARICELI SANTIAGO
PRIMARY EXAMINER